

Claims

What is claimed is:

- 5 1. A system for read path acceleration, comprising:

 a memory core divided into a plurality of segments each segment
 having a plurality of local amplifiers each coupled to a pair of global read data
 lines; and
10 a main amplifier having an input coupled to the pair of global read data
 lines and having an output coupled to an output register.
2. The system of claim 1 further including a main amplifier strobe
 coupled to each of the plurality of local amplifiers.
- 15 3. The system of claim 2, further including a second main amplifier
 strobe coupled to the main amplifier.
4. The system of claim 3, wherein the second main amplifier is
20 coupled to an equalization circuit.
5. The system of claim 1, further including a local strobe reset
 circuit coupled to a local amplifier of the plurality of local amplifiers.
- 25 6. The system of claim 5, wherein the local strobe reset circuit has
 an input coupled to the main amplifier strobe.
7. The system of claim 6, wherein the local strobe reset circuit has
 an input coupled to a local amplifier strobe.

8. A system for read path acceleration, comprising:

a plurality of strobe reset circuits; and

5 a plurality of local amplifier strobe circuits each having an input
coupled to an output of one of the plurality of strobe reset circuits.

9. The system of claim 8, wherein each of the plurality of strobe
reset circuits has an input coupled to a strobe off signal from each of the
10 plurality of local amplifier strobe circuits.

10. The system of claim 8, further including a main amplifier strobe
circuit coupled to an input of each of the plurality of strobe reset circuits.

15 11. The system of claim 10, wherein each of the plurality of strobe
reset circuits delays a rising edge of a global strobe end signal from the main
amplifier strobe circuit.

12. The system of claim 8, further including a main amplifier
20 coupled to a pair of global read data lines, the pair of global read data lines
coupled to a local amplifier coupled to one of the plurality of local amplifier
strobe circuits.

13. The system of claim 12, further including a second main
25 amplifier strobe circuit coupled to the main amplifier.

14. The system of claim 10, wherein the main amplifier strobe
delays a rising edge of a global word strobe signal.

15. The system of claim 14, wherein the main amplifier strobe does not delay a falling edge of the global word strobe signal.

5 16. A system for read path acceleration, comprising:

a first strobe reset circuit coupled to a first local amplifier;

a second strobe reset circuit coupled to a second local amplifier; and

10 a main amplifier coupled to an output of the first local amplifier and an output of the second local amplifier.

17. The system of claim 16, wherein a first delay between the main amplifier and the first local amplifier is different from a second delay between the main amplifier and the second local amplifier.

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18. The system of claim 16, further including a main amplifier strobe circuit coupled to the first strobe reset circuit and the second strobe reset circuit.

20 19. The system of claim 18, further including a second main amplifier strobe circuit coupled to the main amplifier.

20. The system of claim 19, further including an equalization circuit coupled to the main amplifier strobe circuit.

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